

Leonid Petrov

The use of numerical weather models for SLR data analysis.

Development of our ability to model the 4D atmosphere and to digest humongous outputs of these models that took place over the course of the 21st century opened new opportunities for analysis of laser ranging observations. One of the applications of these capabilities is computation of crust deformations caused by variable atmosphere pressure loading, land water storage loading, and non-tidal loading. The International Mass Loading Service that became fully operational in 2014 provides loading time series from 1979.01.01 through present, and updates them in an hourly basis with latencies 8-20 hours. Another important application is computation of slant path delay which is currently done on an operational basis. The details of practical implementation of incorporation of these data products in a data reduction model are discussed.